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STATTLER, JOHANSEN, AND ADELI LLP
1875 CENTURY PARK EAST SUITE 1050
CENTURY CITY, CA 90067

EXAMINER	
BHATNAGAR, ANAND P	

ART UNIT	PAPER NUMBER
2623	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/005,383	GRAVES ET AL.	
	Examiner	Art Unit	
	Anand Bhatnagar	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09/13/04 & 03/07/05*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20 and 22-24* is/are pending in the application.

4a) Of the above claim(s) *1-5,12-17, and 22* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-11, 18-20, 23, and 24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *09/13/04* 9/10/05
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Arguments

1. Applicant's amendment filed on 09/13/04 has been entered and made of record. Claims 6, 9, and 18-20 had been amended in this amendment and 3 new claims were added (#22-#24). After the filing of this amendment a restriction was given on the pending claims.

2. Applicant's election without traverse of Group I (claims 6-11, 18-20, 23, and 24) in the reply filed on 03/07/05 is acknowledged. Claims 1-20 and 22-24 are pending. Claims 1-5, 12-17, and 22 are withdrawn from consideration and arguments will not be addressed to these claims.

3. Applicant's representative in essence argues (remarks, bottom of pg. 15 to top of pg. 16), regarding claim 6, that the Adobe Photoshop Manual does not disclose, teach, or even suggest the separate operations of receiving a user input for modifying luminance values of pixels of a first selected luminance value, modifying a luminance mapping relationship based on the user input, and using the modified luminance mapping relationship to map original luminance values of pixels to adjusted luminance values in a manner related to a difference between said first selected luminance value and said original luminance value. Examiner disagrees. . It is well known in the field of image processing that there exists a myriad of color spaces such as HSV, RGB, YIQ, YUV, YCrCb, etc. The color space YUV is composed of luminance (Y) and the color components (U and V) and for the color space YCrCb the luminance is Y and the color/chrominance components are (Cr and Cb). Any color, such as red would have specific Y, U,

and V values and different shade of red would have different Y, U, and V values. In image processing it is well known wherein the luminance of the color can be changed without its color components being changed, or the color components can be changed and the luminance level left unchanged, or both the color components and the luminance level can be changed. The prior art of Adobe photoshop 5.0 user manual shows to change different variables, such as luminance, color, etc. of the colors in an image. On page 117 (bottom of right column) to page 118 left column an example of changing the contrast is given showing the changing of the gray scale values, i.e. the luminance level, of certain colors and no change in the color component values (U and V). This example shows that when a certain color's (here the color white was used) grey scale value/luminance level is changed which is either increased or decreased in value, i.e. the brightness changed, accordingly the luminance values of the other pixels in the image need to be also modified up or down, this is read as the luminance being related to a difference between said first selected luminance value and said original luminance value. Once the white luminance level is changed from 233, either raised above 233 or lowered below 233 and this is read as the selected luminance value, then the luminance level of other gray scale luminance levels are changed accordingly are changed, which is going to be somewhere between the selected luminance value and the original luminance level (i.e. the difference). Further, when a certain luminance level is changed by a

user than the other luminance levels need to be proportionally changed, and this is read as a mapping relationship for the luminance values/levels.

Regarding claim 9, applicant argues that "Adobe the Photoshop Manual nor Sato, alone or in combination, discloses, teaches, or even suggests receiving a user input for modifying chrominance values of pixels of a first selected luminance value; based on the user input, modifying a chrominance mapping relationship for mapping chrominance values; and using the modified chrominance mapping relationship to map original chrominance values of pixels with other luminance values to adjusted chrominance values in a manner related to a difference between said first selected luminance value and said other luminance value." Examiner disagrees. Adobe photoshop, on page 122, bottom of right column, to page 123 shows the changing /adjusting of the color balance. Here, the color of the image is changed by changing the color components (the chrominance values in the case of a YCrCb color space) but the luminance component is not changed. Adobe discusses, page 123 left column, that a change in the color(s) affects the overall color balance of the image, Therefore any adjustments will depend on the image and on the desired effect, i.e. a change in a specific color in the image may require a change in the other colors in an image to keep a color balance. This is read as changing first color at a certain luminance level and changing the second color at a different luminance level since only color components are changed and not the luminance. See the argument for the mapping relationship for the luminance above.

Examiner refers to the rejection below.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 6, 8, 18-20, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by (Adobe photoshop 5.0 user manual).

Regarding claims 6 and 23: Adobe photoshop discloses a method of performing color correction on at least one image, said image comprised of a plurality of pixels (page 117 left column under the section "Setting the highlights and shadows using the Level sliders"), said method comprising:

accepting a first vector input from a first color adjustment pad, said first vector input proportionally adjusting a color of pixels of a first selected luminance value in said image (page 117 right column step 3, wherein the pixel value with the highest brightness of 233 is changed, this pixel of 233 is read as a white pixel and is read as the first vector of luminance); and

adjusting a color of pixels with other luminance values in a manner related to a difference between said first selected luminance value and said other luminance value (page 117 right column step 3 and page 118 left column bottom paragraph, wherein the other pixels are adjusted accordingly to the change in the white pixel value).

Regarding claim 18: The method of performing color correction on at least one image wherein said first selected luminance value is a white luminance value. It is rejected for the same reason as claim 1.

Regarding claim 19: The method of performing color correction on at least one image wherein said first selected luminance value is a black luminance value (page 119 left column bottom paragraphs and page 120 right column under the section "Using the Curves Command", wherein any point from 0 to 255 can be changed and the zero point is the black pixels and the 255 is the white pixels).

Regarding claim 20: The method of performing color correction on at least one image as wherein said first selected luminance value is a middle luminance value (page 118 right column steps 4-6, where the midtones/gray pixels are changed/adjusted).

Regarding claim 8: The method wherein an equation specifies the luminance mapping relationship, and wherein modifying the luminance mapping relationship comprises modifying the equation.

It is rejected for the same reason as claim 6. When the brightest value is changed in the image and all other pixels' brightness levels are changed based

on the change in the brightest pixel which is inherently performed by changing/adjusting the algorithm/equation to adjusted the other brightness values of the pixels.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

A.) Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over (Adobe photoshop 5.0 user manual) and Barton et al. (U.S. patent 6,266,103 B1).

Regarding claim 7: The method wherein a look up table specifies the luminance mapping relationship by identifying an output luminance value for each of a set of input luminance values, wherein modifying the luminance mapping relationship comprises modifying a set of output luminance values in the look up table based on the user input.

Adobe photoshop discloses to modify parameters, such as color, brightness/luminance, hue, saturation, etc., of an image (adobe photoshop; page 109 left column). Adobe photoshop further teaches to change the values of all

the other pixels accordingly based on the change made to a certain image parameter and can make changes using a curve and/or a color table (adobe photoshop; page 107 left column, page 117 right column bottom paragraph, page 118 whole page, page 120 right column). Adobe photoshop does not teach to use a luminance table to correct parameters in an image. Barton teaches to use a luminance table to make changes in an image (Barton; abstract, col. 4 lines 5-12, and col. 10 lines 28-39). It would have been obvious to one skilled in the art to combine the teaching of Barton et al. to that of adobe because they are analogous in image modification/smoothing. One in the art would have been motivated to incorporate the teaching of a luminance look up table of Barton et al. to that of the adobe photoshop in order to adjust the luminance because this is the most perceptible component of color to the naked eye.

B.) Claims 9, 11, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over (Adobe photoshop 5.0 user manual) and Sato et al. (U.S. patent 6,262,817 B1).

Regarding claims 9 and 24: A method of performing color correction by adjusting chrominance values of a set of pixels, the method comprising:

a) receiving a user input for modifying chrominance values of pixels;

b) based on the user input, modifying a chrominance mapping relationship for mapping chrominance values; and

c) using the modified chrominance mapping relationship to map original chrominance values of pixels to adjusted chrominance values.

It is rejected for the same reasons as claim 1 and 6 above and for the following limitation of modifying chrominance values: Adobe photoshop discloses to modify parameters, such as color, brightness/luminance, hue, saturation, etc., of an image (adobe photoshop; page 109 left column). Adobe photoshop further teaches to change the values of all the other pixels accordingly based on the change made to a certain image parameter and can make changes using a curve and/or a color table (adobe photoshop; page 107 left column, page 117 right column bottom paragraph, page 118 whole page, page 120 right column). Adobe photoshop does not teach to change the chrominance values in an image. Sato et al. teaches to change the chrominance values of an image (Sato et al.; col. 17 lines 17-25 and col. 18 lines 50-67). It would have been obvious to one skilled in the art to combine the teaching of Sato et al. to that of adobe because they are analogous in image modification/correction. One in the art would have been motivated to incorporate the teaching of a changing the chrominance values of Sato et al. to that of the adobe photoshop in order to have a system which adjust different parameters of different color spaces.

Regarding claim 11: The method of wherein an equation specifies the mapping relationship, and wherein modifying the mapping relationship comprises modifying the equation. It is rejected for the same reason as claim 8 above.

D.) Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over (Adobe photoshop 5.0 user manual), as modified by Sato et al. (U.S. patent 6,262,817), and further in view of Barton et al. (U.S. patent 6,266,103 B1).

Regarding claim 10: The method wherein a look up table specifies the chrominance mapping relationship by identifying an output chrominance value for each of a set of input chrominance values, wherein modifying the chrominance mapping relationship comprises modifying a set of output chrominance values in the look up table based on the user input. It is rejected for the same reason as claim 7 above.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anand Bhatnagar whose telephone number is (571) 272-7416, whose acting supervisor is Jingge Wu whose number is (571) 272-7429, Central fax is 571-273-8300, and Tech center 2600 customer service office number is 703-306-0377.

SAMIR AHMED
PRIMARY EXAMINER

AB

Anand Bhatnagar

Art Unit 2623

August 4, 2005